

TM 180 - M-FC BROTH BASE

INTENDED USE

For detection and enumeration of faecal coliforms by membrane filter technique at higher temp. (44.5°C).

PRODUCT SUMMARY AND EXPLANATION

M-FC Broth Base, designed by Geldreich et al is used for the detection and enumeration of faecal coliforms using the membrane filter technique. This medium is based on the property of faecal coliforms to grow at 44-45°C. M-FC Broth Base is recommended by APHA and by various other standards for detection of faecal coliforms. APHA recommends the membrane filtration procedure and delayed incubation for faecal coliforms.

Sterile cotton absorbent cotton pads are saturated with M-FC Broth Base by addition of 2 ml medium. Membrane filters, through which water sample is passed, are aseptically placed onto sterile cotton absorbent cotton pads saturated with M-FC Broth Base. If total coliforms are to be estimated, incubation is carried out at 35-37°C whereas if faecal coliform count is to be estimated, incubation is done at 44-45°C. Coliforms will form blue colonies whereas non-coliforms will form gray coloured colonies on M-FC Broth Base.

COMPOSITION

Ingredients	Gms / Ltr
Tryptose	10.000
Proteose peptone	5.000
Yeast extract	3.000
Lactose	12.500
Bile salts mixture	1.500
Sodium chloride	5.000
Aniline blue	0.100

PRINCIPLE

Proteose peptone, tryptose and yeast extract provide necessary nutrients for the growth of faecal coliforms. Lactose is the carbon source as well as fermentable carbohydrate in the medium. Bile salts inhibit the growth of contaminating gram-positive microorganisms. Aniline blue is a triphenyl methane dye which suppresses the growth of many gram-positive microorganisms. Aniline blue along with rosolic acid forms the indicator system of the medium.

INSTRUCTION FOR USE

- Dissolve 37.1 grams in 1000 ml purified / distilled water containing 10 ml 1% Rosolic Acid.
- Heat to boiling to dissolve the medium completely. Do not autoclave.
- Cool to 45°C and add 2 ml of M-FC Broth on sterile absorbent pad placed in a sterile Petri plate.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Light yellow to bluish grey homogeneous free flowing powder
Appearance of prepared medium : After Addition of 1% Rosolic Acid: Red coloured slightly opalescent gel forms in Petri plates
pH (at 25°C) : 7.4±0.2

INTERPRETATION

Cultural characteristics observed with added 1% Rosolic Acid after an incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth at 35-37°C	Recovery at 35-37°C	Growth at 45.5°C	Recovery at 45.5°C	Color of the colony(on membrane filter)	Incubation Temperature	Incubation Period
<i>Enterococcus faecalis</i>	29212	$\geq 10^4$	inhibited	0%	inhibited	0%	-	45.5°C	22-24 Hours
<i>Escherichia coli</i>	25922	50-100	luxuriant	$\geq 70\%$	luxuriant	$\geq 70\%$	light blue	45.5°C	22-24 Hours
<i>Salmonella Typhimurium</i>	14028	50-100	Luxuriant	$\geq 70\%$	inhibited	$\geq 70\%$	pinkish	45.5°C	22-24 Hours
<i>Shigella flexneri</i>	12022	50-100	luxuriant	$\geq 70\%$	inhibited	$\geq 70\%$	pinkish	45.5°C	22-24 Hours

PACKAGING:

In pack size of 500 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.













DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

- Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
- Bordner R. H., Winter J. A. and Scarpino P. V. (Eds.), 1978, EPA-600/8-78-017, Environmental Monitoring and Support Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Cincinnati, Ohio.
- Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.) Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.
- Eaton A. D., Clesceri L. S. and Greenberg A. W., (Eds.), 2005, Standard Methods for the Examination of Water and Wastewater, 21st Ed., APHA, Washington, D.C.
- Geldreich E. E., Clark H. F., Huff E. E. and Bert M., 1965, J. Am. Water Works Assoc., 57:208.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
- Official Methods of Analysis of AOAC International, 2000, 17th Ed., AOAC International, Gaithersburg, Md.
- U.S. Environmental Protection Agency, 1992, EPA-814B-92-2002, Office of Ground Water and Technical Support Division, USEPA, Cincinnati, Ohio.



 GMP Good Manufacturing Practices Certified	 IVD For In Vitro Diagnostic Use	 QTY. Quantity	 LOT/ B. NO. Lot / Batch Number	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 EC REP Authorized Representative <small>MedNet GmbH Buckstrasse 10, 49163 Muenster, Germany</small>	 European Conformity	 QR Code	 Consults Instructions for Use	 Best Before

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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